



Forest Insect & Disease Management

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EVALUATION OF DISEASE AND INSECT PROBLEMS IN EUCALYPTUS
EXPERIMENTAL AND FIELD PLANTINGS



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EVALUATION OF DISEASE AND INSECT PROBLEMS IN EUCALYPTUS EXPERIMENTAL AND FIELD PLANTINGS

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ABSTRACT

Several disease organisms were found in association with the eucalyptus trees. All of the diseases are endemic at this time but organisms causing cankers, root rots, and foliage leaf spots have the potential to cause economic losses. No serious insect pests were observed in any plantation. In 1975, a cooperative agreement was made between Southeastern Area Research and Southeastern Area State and Private to visit the Florida experimental and field plantings twice a year to check for insect and disease activity. This report presents the results of the 1979 spring visit. Starting in 1980, permanent plots will be established for monitoring insect and disease development. The visits will be changed to once a year and on call as needed.

METHODS

George Meskimen took us to a variety of eucalyptus planted areas. The areas varied by species, location, and age. Samples were collected from each area to confirm the cause of the damage.

RESULTS

For ease of reference, the results are grouped by damage type.

Cankers

IG POP 77
12.28, Phosphorus degrade

Diaporthe cubensis
(A species of Cylindrocladium was isolated from these same type of symptoms last visit)

CT-washed vs. plug
Red 73 Surface Canker
Spanish camaldulensis

Diaporthe cubensis

Ferguson
Grandis - Oldest stand

Diaporthe cubensis

E R13C174
Redgum and *E. grandis*
1 Hybrid T POP 74

Diaporthe cubensis

G POP 77
Stem swelling 55.16

No pathogens

Ferguson oldest stand
Robusta

Diaporthe cubensis

G POP 77
Canker at base of branch

Phoma sp
(Probably not a pathogen)

GT POP 74
R16 C187

Diaporthe cubensis

Dieback

Spanish camaldulensis
Highway 74 (seed abortion area)

Diaporthe cubensis

Winter killed area

Valsa eucalypti

Ferguson 72
Robusta bending and breakage

No pathogens

Ferguson 73
Hybrid f-2

Valsa eucalypti

Ferguson 72 overflow
E. Robusta
Dying tree

Phoma sp

Diaporthe cubensis

Seed abortion

Spanish camaldulensis

A variety of fungi but no known pathogens

Highway 74

Root Rot

Ferguson
Robusta - oldest stand

Clitocybe tabescens

Foliage

G POP 77
11.42 (Tip mortality)

Phyllosticta eucalypti

G POP 77
Leaf spot

Phyllosticta eucalypti

G POP 77 Foliage tip dieback

Phyllosticta eucalypti

G POP 77

Phyllosticta eucalypti

Insects

All plantations were remarkably free of insect pests. Two free-feeding loopers, found in different plantations, were forwarded to the USDA Systematic Entomology Laboratory in Beltsville, Maryland, and confirmed by Dr. D. M. Weisman to be an unknown species of the family Geometridae. While these insects fed voraciously on eucalyptus foliage while in captivity, overall damage in the field was negligible. This is apparently because wild populations are so low.

DISCUSSION

It seems that the time of year has an influence on the recovery of pathogens, such as Cylindrocladium isolated from phosphorus degrade in the fall but Diaporthe in the spring. Diaporthe seems to be easier to isolate in the spring and we did not pick up as many secondary fungi in the leaf spots.

Overall, insect and disease problems are endemic in the areas visited. Many of the pathogens have the potential to become epidemic.